

**State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

MONITORING AND REPORTING PROGRAM - CI 6948

FOR

**MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF
LONG BEACH**

(NPDES PERMIT NO. CAS004001)

I. Program Reporting Requirements

A. Program Management

Permittees shall submit, no later than (3 months following the adoption of this Order), the Annual Storm Water Report and Assessment (Annual Report) for the period July 1, 2000, through October 25, 2001 documenting the status of the storm water management program (Program) up to permit reissuance and the results of analyses from the monitoring and reporting program.

The Principal Permittee shall submit, by October 15 of each year beginning the year 2002, an Annual Report documenting the progress of Permittee implementation of the Storm Water Quality Management Plan (SQMP) and the requirements of this Order. An integrated summary of the results of analyses from the Monitoring Program described under *II. Monitoring Requirements* shall also be included. The Principal Permittee shall evaluate the Annual Report with the results of analyses from the Monitoring Program (e.g. if the monitoring results show a particular constituent consistently at elevated levels, that may be a trigger for Permittees to address their programs specifically for that particular situation and change them accordingly to address the problem).

The Annual Report shall cover each fiscal year from July 1 through June 30. At a minimum, the Annual Report will include the following:

1. All proposed changes to the SQMP as approved by the Executive Advisory Committee (EAC).
2. A comparison of program implementation results to performance standards established in this Order and in the SQMP.
3. Status of compliance with permit requirements including implementation dates for all time-specific deadlines. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met, how the requirements will be met in the future, including projected implementation date.
4. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment will be based upon the specific record-keeping information requirement in each major section of the

permit, monitoring data, and any other information related to program effectiveness. Beginning in the Year 2002, to the extent that data collected in monitoring requirements included herein and existing monitoring data allows, the Principal Permittee shall include an analysis of trends, land use contributions, pollutant source identifications, BMP effectiveness, and impacts on beneficial uses.

5. An analysis of the data to identify areas of the Program coverage which cause or contribute to exceedances of water quality standards or objectives, predominate land uses in these areas, and potential sources of pollutants in those areas.
6. Discussion of the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with the waste discharge requirements.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall submit an annual PIPP Update to the Regional Board Executive Officer for approval. The PIPP Update shall include a summary of the overall strategy and any updates or modifications to the PIPP.

Programs for Residents

1. Number of storm drain inlets and designated public access points to creeks, channels, and other relevant water bodies in each Permittees' systems that are marked or posted with a no dumping message. If the requirement that 100 percent of storm drains inlets are marked/signed is not met, each Permittee shall report the reasons why, and how the requirement will be met in the future, including the implementation date.
2. Description of activities on distributing brochures, community outreach efforts, public communication efforts and educational programs in schools including an estimate of the number of impressions per year made on the general public about storm water quality via print, local TV access, local radio presentations, meetings or other appropriate media.
3. Description of the quarterly Public Outreach Strategy meetings, including percentage of Permittee attendance, effectiveness at coordinating Permittee education programs, and overall effectiveness based on Permittee evaluations. Also, a description of each Permittee's participation in and contribution to the PIPP.
4. Description of activities for the Pollutant-Specific Outreach programs, including creating and distributing outreach materials to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate counters and events.

Programs for Businesses

1. Description of the Corporate Outreach program, including the number of consultations with corporate-level management of gas stations and restaurant chains and the percentage of the total.
2. Description of the Business Assistance Program, including the number of businesses that requested assistance and the number that were assisted through site visits, telephone consultations, presentations, or material distribution.

C. Industrial/Commercial Facilities Program

1. An annual update of the watershed-based inventory of all Industrial/Commercial sites identified as a threat to water quality. This includes all Phase I industrial facilities, motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, restaurants, and other facilities that contribute or have the potential to contribute to impairments of receiving waters. The inventory shall include at a minimum: facility name, site address, SIC code and narrative description of activities performed at each facility.
2. Number of restaurants, automotive businesses, industrial facilities, and other commercial facilities targeted under the program. During the past year, the number of industrial and commercial inspections conducted, the number of non-compliant sites, and the number of industrial facilities the Permittees have identified that have failed to file an NOI.
3. The percentage of targeted staff trained annually.

D. Development Planning Program

1. Total number and percent of all development projects reviewed and conditioned to meet SUSMP requirements by category such as residential, commercial, and industrial.
2. Total square feet of impervious area conditioned for mitigation by development and redevelopment category.
3. Significant date rewrite completed of General Plan with storm water considerations.
4. Percent and total number of targeted staff trained annually [100 percent].
5. Date CEQA guidelines revision completed to include storm water mitigation conditions.
6. Date BMP design and sizing technical manual completed and made available electronically.

E. Construction Development Program

1. Number of construction projects requiring local SWPPPs in the past year and the percentage of projects in categories requiring submittal of a local SWPPP for which local SWPPPs were completed.

2. Number and type of enforcement actions, applicable to storm water enforcement, taken at construction sites during the past year.
3. Description of the outreach program to the construction community and assessment of its effectiveness; This assessment should include a discussion of the number of inspections, or other meetings conducted.
4. The percentage of targeted staff trained annually.

F. Illicit Connections and Illicit Discharges Elimination Program

1. Annual update of the analytical tool used to manage and track illicit connections and discharges, including an evaluation of patterns and trends of illicit connections and illicit discharges in the entire storm drain system.
2. Location and length of open channels and closed storm drains that were screened by all Permittees, and the status of all suspected, confirmed, and terminated illicit connections.
3. Number of reports of illicit discharges that Permittees responded to, percentage that were identified as actual illicit discharges, and percentage of the actual illicit discharges where the incident was either cleaned up, referred to another responsible agency and/or follow up/education with the discharger was conducted.
4. Percentage of cleanup and abatement activities that occurred within 72 hours of discovery or report of a suspected illicit discharge and justification for response activities that exceeded 72 hours.
5. For groups of identified illicit discharge types where the probable causes for the discharge can be identified, report probable causes and the actions taken to prevent similar discharges from occurring.
6. Number of illicit connections identified in the past year.
7. Percentage of investigations that were initiated within 21 days of identification or a report of an illicit connection and justification for those that exceeded 21 days.
8. Number of illicit connections eliminated in the past year.
9. Percentage of illicit connections terminated within 180 days of identification and justification for terminations that exceeded 180 days.
10. Number and type of enforcement actions for storm water illicit discharges and/or illicit connections taken in the past year.
11. A summary from records on illicit discharges and connections which includes description of discharge, source, and enforcement action taken.
12. A summary from records on illicit connections which includes the number of illicit connections terminated by the issuance of a connection permit and those terminated by removal of the connection. This summary shall also include a breakdown of identified illicit connections by land use.

13. The percentage of targeted employees trained annually.

G. Programs for Facilities Maintenance

1. A summary which at a minimum includes the quantity, predominant types and likely sources of trash removed from catch basin inlets.
2. A summary of the total curb miles of streets swept annually and the percentage of total curb miles swept annually as a function of total curb miles.
3. The percentage of targeted staff trained annually.

H. Pollutants of Concern

1. A progress report on sources of pollutants of concern, BMPs for their control, and implemented BMP effectiveness.

I. Monitoring Program Management

1. The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The report shall include:
 - a) Status of implementation of the monitoring program
 - b) Results of the monitoring program
 - c) A general interpretation of the results
 - d) Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program
 - e) An analysis of trends, land use contributions, pollutant source identifications, BMP effectiveness, and impacts on beneficial uses
 - f) Suggestions for improvements to the SQMP based on the analysis
 - g) All monitoring reports shall be submitted in both electronic and paper formats
2. The Principal Permittee shall
3. The Principal Permittee shall submit, no later than (3 months following the adoption of this Order), the results of analyses from the monitoring and reporting program for the period July 1, 2000 through October 25, 2001 together with the Annual Report for the same period.

- J. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to EPA regulations 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ____ day of _____, 20__,

at _____.

(Signature)_____ (Title)_____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to EPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall mail the original of each annual report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. **Monitoring Program**

The primary objectives of the Los Angeles County Storm Water Quality Monitoring Program include, but are not limited to: 1) assessing compliance with this Order; 2) measuring and improving the effectiveness of the SQMPs; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water

discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality. Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMPs for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee shall implement the Countywide Storm Water Monitoring Program as follows:

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives: 1) estimate the mass emissions from the MS4; 2) assess trends in the mass emissions over time; and 3) determine if the MS4 is contributing to exceedances of water quality objectives by comparing results to objectives in the Basin Plan, Ocean Plan, and with emissions from other dischargers.

1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River (location to be determined prior to the adoption of this Order). The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed.
2. All storms, in addition to those required above, totaling at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of median mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.
3. Samples for mass emission station monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms totaling 0.25 inches or greater of rainfall. Samples taken at mass emission stations during the first storm event should be analyzed for all constituents listed in Attachment U-1. The Principal Permittee may elect not to sample Volatile Organic Compounds from the list of constituents for mass emission stations.
4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be time-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹, unless the Regional Board Executive Officer approves alternate protocol.

¹ Provisions for flow-weighted composite samples set forth in 40 CFR 122.21(g)(7)

5. For the first storm of each year, method detection limits (MDLs) lower than or equal to the minimum levels identified in the State Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, 2000 (SIP) shall be used. These levels are listed in column A in Attachment U-1. Where SIP minimum levels are detected, those MDLs shall continue to be used. For constituents that are either not detected or detected at a concentration higher than the MDLs listed in column B in Attachment U-1, the higher MDLs may be used for the remaining sampling events of that year. If a constituent has been detected in 100 percent of samples during the last 2 years of monitoring, the Principal Permittee may continue to use the MDLs listed in column B until the constituent is not detected, after which, the method detection limits shall be lowered to those in column A.
6. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 25 percent of the first ten sampling events or on a rolling basis using ten consecutive sampling events, it need not be further analyzed, with the exception of the first storm of each season, unless the observed occurrences show high concentrations and are cause for concern.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze two wet weather samples and two dry weather samples from each mass emission station for toxicity per year. A minimum of one freshwater and one marine species shall be used for toxicity testing. Specifically, *Ceriodaphnia dubia* and *Strongylocentrotus purpuratus* (sea urchin) fertilization shall be used. Only *Ceriodaphnia dubia* shall be used for toxicity testing of samples from the Santa Clara mass emission station. If toxicity is not detected in either of the dry weather samples for any given mass emission station, the Principal Permittee may reduce dry weather toxicity testing to one sample per year at that station. If toxicity is not detected in either of the wet weather samples for any given mass emission station, wet weather toxicity testing may be reduced to one sample from the first storm of the wet season per year at that station.
2. Toxicity Identification Evaluations (TIE)

The Principal Permittee shall conduct Phase I TIEs on wet weather samples when two consecutive samples from the same monitoring station show toxicity and on dry weather samples when two consecutive dry weather samples from the same monitoring station show toxicity.

3. Toxicity Reduction Evaluations (TRE)

- a) The Principal Permittee shall perform a TRE for each pollutant or pollutant class that is identified as toxic. TREs shall include the following:
 - (1) An analysis of possible sources of toxicity, the identification of appropriate BMPs to eliminate toxicity and a time schedule for toxicity reduction that considers BMP implementation and effectiveness time. The Principal Permittee, Regional Board staff, and a third party will collaborate to develop and evaluate the analysis and recommendations.
 - (2) Submittal of the analysis to the Regional Board Executive Officer for approval.

The Principal Permittee may use EPA manual EPA/833B-99/002 (municipal) as guidance for TRE preparation.

- b) Upon approval by the Regional Board Executive Officer, each Permittee having jurisdiction over sources causing or contributing to storm water toxicity shall be responsible for implementing the recommended BMPs to reduce toxicity.
- c) During TRE development and implementation, the Principal Permittee shall continue monitoring the first storm and one dry weather event per year for toxicity at the subject station. According to the time schedule included in the TRE, the Principal Permittee shall analyze two wet weather and two dry weather samples for toxicity to evaluate the effectiveness of the TRE.
- d) The Principal Permittee shall conduct a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds.
- e) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary/Source Identification Monitoring

The Principal Permittee shall monitor select tributaries to identify sources of pollutants in subwatersheds, prioritize locations that need management actions, provide baseline information for TMDL development and allocate pollutant loads for TMDL development. An additional purpose of this monitoring is to validate the Land Use Model.

1. The Principal Permittee shall develop and implement a tributary/source identification monitoring program². The following tributaries which have

² The Principal Permittee is currently working with Regional Board staff to modify this program

been identified as contributing the greatest loads of metals per acre in each subwatershed (based on the last four years of data for land use type, area, and rainfall) shall be monitored:

- a) Centinela Creek (Ballona Creek WMA)
 - b) Kenter Canyon (Ballona Creek WMA)
 - c) Aliso Creek (Los Angeles River WMA)
 - d) Bull Creek (Los Angeles River WMA)
 - e) Compton Creek (Los Angeles River WMA)
 - f) Los Cerritos Channel (San Gabriel River WMA)
 - g) San Jose Creek (San Gabriel River WMA)
2. The Principal Permittee shall begin monitoring in the Los Angeles River watershed in the 2001-2002 storm season, and the San Gabriel River and Ballona Creek watersheds no later than the 2002-2003 storm season.
 3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.
 4. Samples shall be time-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge³, unless the Regional Board Executive Officer approves alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:
 - a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids
 - b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.
 - c) All other constituents for which the water body is impaired⁴.
 - d) Flow (flow may be estimated using EPA methods⁵ at sites where flow measurement devices are not in place).
 5. For the first storm of each year, MDLs lower than or equal to the minimum levels identified in the SIP shall be used. These levels are listed in column A in Attachment U-1. Where SIP minimum levels are detected, those MDLs shall continue to be used. For constituents that are either not detected or detected at a concentration higher than the MDLs listed in column B in Attachment U-1, the higher MDLs may be used for the remaining sampling events of that year.

³ Provisions for flow-weighted composite samples set forth in 40 CFR 122.21(g)(7)

⁴ The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

⁵ NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

6. The Principal Permittee shall submit a report identifying sources and/or source areas of pollutants within each watershed and priority management actions as part of the fourth Monitoring Report, to be submitted in 2005. The SQMP shall be modified to reflect the identified priority management actions.

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from urban runoff. This component should be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the State of California's bathing water standards for public beaches and ocean water-contact sport areas⁶, and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:
 - a) The eighteen established shoreline water quality stations listed in Attachment U-2 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project (SMBRP) and approval from the Regional Board Executive Officer;
 - b) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

| Parameter | Units | Sample Frequency |
|-----------------------------|-------------------|-------------------------------|
| Total coliforms | CFU or MPN/100 ml | 6/week (Mon-Sat) ⁷ |
| Fecal Coliform ⁸ | CFU or MPN/100 ml | 6/week (Mon-Sat) ⁵ |
| Enterococcus | CFU or MPN/100 ml | 6/week (Mon-Sat) ⁵ |

⁶ California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765)

⁷ Samples will be collected on Sundays preceding Monday holidays

⁸ *Escherichia Coli* (*E. Coli*) may be substituted for Fecal Coliform if chromogenic substrate test kits are used

- c) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;
- d) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's Technical Advisory Committee and the Los Angeles County Department of Health Services (DHS).
- e) Data collected shall be transmitted daily to the Los Angeles County DHS. Data shall be assessed annually and presented in the Annual Report;
- f) When exceedances of public health standards for bacteria occur, the Principal Permittee shall notify the appropriate Permittees. Permittees shall initiate an investigation to determine the source, as required in the Program to Eliminate Illicit Connections and Discharges (Part 4.F.2.c.).
- g) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the Santa Monica Bay Restoration Project regional program for the Santa Monica Bay.

E. Trash Monitoring

The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds. The Principal Permittee is encouraged to implement the program in the watersheds that are not presently listed on the 303(d) list for impairment for trash.

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and should complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertebrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit cycle. Sediment samples shall be taken at each station by means of a 0.1m² (1.1 ft²) modified Van Veen sediment grab sampler.
2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.
3. All samples shall be analyzed for the following:
 - a) Sediment Chemistry (priority pollutants)
 - b) Total Organic Carbon (TOC)
 - c) Grain size
 - d) Sediment Toxicity
 - (1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.
 - (2) Phase I TIEs of interstitial water, using *Ceriodaphnia dubia* and *Strongylocentrotus purpuratus* (sea urchin) fertilization, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.
 - e) Benthic Macroinvertebrates
 - (1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.
 - (2) The Principal Permittee shall identify all organisms to lowest possible taxon.
 - (3) The Principal Permittee shall determine the Total Biomass of:
 - (i) Mollusks
 - (ii) Echinoderms
 - (iii) Annelids/polychaetes
 - (iv) Crustaceans
 - (v) All other macroinvertebrates

- (4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index⁹.
4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water.

G. Bioassessment

The Principal Permittee shall continue participation on the Southern California Stormwater Research/Monitoring Program committee (coordinated by SCCWRP). The Regional Board anticipates that this program will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The Principal Permittee shall participate in this regional effort at least to the extent described below.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California.

1. The Principal Permittee shall coordinate with the Southern California Stormwater Research/Monitoring Program and with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the Regional Board to identify the most appropriate locations for bioassessment stations within Los Angeles County.
2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin in October of 2003.
3. The Principal Permittee shall monitor a minimum of 20 station events per year (either 20 stations in October of each year, or 10 stations in May and October of each year). A minimum of three replicate samples shall be collected at each station during each sampling event.
4. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)¹⁰. The following results shall be included in the annual Monitoring Report:

⁹ Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

¹⁰ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

- a) All physical, chemical and biological data collected in the assessment;
 - b) Photographic documentation of assessment and reference stations;
 - c) Documentation of quality assurance and control procedures;
 - d) Analysis that shall include calculation of the metrics used in the CSBP;
 - e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;
 - f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database.
5. A professional environmental laboratory shall perform all sampling, laboratory, quality assurance, and analytical procedures.

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee and the City of Santa Clarita shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee and the City of Santa Clarita shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.
2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than 180 days from the date this Order is adopted. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described in Section I.
3. The Principal Permittee and the City of Santa Clarita shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.
4. Samples shall be time-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within

each hour of discharge¹¹, unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:

- a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS
 - b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.
 - c) Pathogen Indicators (Coliform)
 - d) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place)
5. For the first storm of each year, MDLs lower than or equal to the minimum levels identified in the SIP shall be used. These levels are listed in column A in Attachment U-1. Where SIP minimum levels are detected, those MDLs shall continue to be used. For constituents that are either not detected or detected at a concentration higher than the MDLs listed in column B in Attachment U-1, the higher MDLs may be used for the remaining sampling events of that year.
6. The Principal Permittee and the City of Santa Clarita shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fifth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall participate in a study to evaluate peak storm water discharge rate (PDR) control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization (Part 4.C.2.). The Principal Permittee may partner with the Ventura County Flood Control District to extend their stream erosion study to the Santa Clara River watershed. The study shall begin no later than 360 days from the date this Order is adopted.

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control storm water best management practices. The objectives of this study shall include the following:

¹¹ Provisions for flow-weighted composite samples set forth in 40 CFR 122.21(g)(7)

1. Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year proceeding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.
2. Evaluate the requirements, feasibility and cost of maintenance for each BMP.
3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the Santa Monica Bay Restoration Foundation's proposed study, "Performance Evaluation of Structural BMPs for Storm water Pollution Control in the Santa Monica Bay Watershed" to meet this requirement. Participation includes collaboration and resource contribution to expand the scope of the proposed study.

K. Standard Monitoring Provisions

1. The Principal Permittee shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

Records of monitoring information shall include:

- a) The date, exact place, and time of sampling or measurements;
- b) The individual(s) who performed the sampling or measurements;
- c) The date(s) analyses were performed;
- d) The individual(s) who performed the analyses;
- e) The analytical techniques or methods used; and,
- f) The results of such analyses.

2. All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.
3. All chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.
4. If no flow occurred during the reporting period, the Monitoring Report shall so state.
5. For any analyses performed for which no procedure is specified in the EPA guidelines or in this Monitoring Program, the constituent or parameter analyzed and the method or procedure used must be specified in the Monitoring Report.
6. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:
 - a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or
 - b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date:

ATTACHMENT U-1
LIST OF CONSTITUENTS IN MONITORING PROGRAM
AND ASSOCIATED METHOD DETECTION LIMITS (MDLs)

| CONSTITUENTS | USEPA METHOD | MDL A ⁱ | MDL B ⁱⁱ |
|--------------------------------|--------------|-----------------------|-----------------------|
| Conventional Pollutants | | mg/L | mg/L |
| Oil and Grease | 413.2 | 1 | 1 |
| Total Phenols | 420.1 | 0.1 | 0.1 |
| Cyanide | 335.2 | 0.01 | 0.01 |
| pH | 150.1 | 0 - 14 | 0 - 14 |
| Temperature | | None | None |
| Dissolved Oxygen | | Sensitivity to 5 mg/L | Sensitivity to 5 mg/L |
| Bacteria | | | |
| Total Coliform | 9221B | <20mpn/100ml | <20mpn/100ml |
| Fecal Coliform | 9221B | <20mpn/100ml | <20mpn/100ml |
| Fecal Streptococcus | 9221B | <20mpn/100ml | <20mpn/100ml |
| General | | mg/L | mg/l |
| Dissolved Phosphorus | 300 | 0.05 | 0.05 |
| Total Phosphorus | 300 | 0.05 | 0.05 |
| Turbidity | 180.1 | 0.1NTU | 0.1NTU |
| Total Suspended Solids | 160.2 | 2 | 2 |
| Total Dissolved Solids | 160.1 | 2 | 2 |
| Volatile Suspended Solids | 160.4 | 2 | 2 |
| Total Organic Carbon | 415.1 | 1 | 1 |
| Total Petroleum Hydrocarbon | 418.1 | 1 | 1 |
| Biochemical Oxygen Demand | 405.1 | 2 | 2 |
| Chemical Oxygen Demand | 410.4 | 20-900 | 20-900 |
| Total Ammonia-Nitrogen | 350.2 | 0.1 | 0.1 |
| Total Kjeldahl Nitrogen | 351.2 | 0.1 | 0.1 |
| Nitrate-Nitrite | 4110 | 0.1 | 0.1 |
| Alkalinity | 310.1 | 2 | 2 |
| Specific Conductance | 120.1 | 1umho/cm | 1umho/cm |
| Total Hardness | 130.2 | 2 | 2 |
| MBAS | 425.1 | <0.5 | <0.5 |
| Chloride | 4110 | 2 | 2 |
| Fluoride | 4110 | 0.1 | 0.1 |
| Sulfate | 4110 | 2 | 2 |
| Metals | | mg/L | mg/L |
| Aluminum | 202.1 | 100 | 100 |

| CONSTITUENTS | USEPA METHOD | MDL A ⁱ | MDL B ⁱⁱ |
|---------------------------------------|--------------|--------------------|---------------------|
| Antimony | 204.2 | 0.5 | 10 |
| Arsenic | 206.2 | 1 | 10 |
| Barium | 208.2 | 100 | 100 |
| Beryllium | 210.2 | 0.5 | 5 |
| Boron | 212.3 | 250 | 250 |
| Cadmium | 213.2 | 0.25 | 10 |
| Calcium | 215.2 | 200 | 200 |
| Chromium | 218.2 | 0.5 | 10 |
| Copper | 219.2 | 0.5 | 10 |
| Hex. Chromium | 7196 | 5 | <10 |
| Iron | 236.2 | 100 | 100 |
| Lead | 239.2 | 0.5 | 10 |
| Magnesium | 242.1 | 200 | 200 |
| Manganese | 243.2 | 30 | 30 |
| Mercury | 245.1 | 0.2 | 1 |
| Nickel | 249.2 | 1 | 10 |
| Potassium | 258.1 | 100 | 100 |
| Selenium | 270.2 | 1 | 5 |
| Silver | 272.2 | 0.25 | 10 |
| Sodium | 273.1 | 50 | 50 |
| Thallium | 279.2 | 1 | 10 |
| Zinc | 289.2 | 1 | 50 |
| | | | |
| Semivolatile Organic Compounds | | mg/L | mg/L |
| | | | |
| Acids | 8250 | | |
| Benzoic Acid | 8250 | <5 | <5 |
| Benzyl Alcohol | 8250 | <5 | <5 |
| 2-Chlorophenol | 8250 | <2 | <2 |
| 2, 4-Dichlorophenol | 8250 | 1 | <2 |
| 2, 6-Dichlorophenol | 8250 | <2 | <2 |
| 4-Dimethylphenol | 8250 | <2 | <2 |
| 4, 6-Dinitro-2-methylphenol | 8250 | <3 | <3 |
| 2, 4-Dinitrophenol | 8250 | <3 | <3 |
| 2-Methylphenol | 8250 | <3 | <3 |
| 4-Methylphenol | 8250 | <3 | <3 |
| 2-Nitrophenol | 8250 | <3 | <3 |
| 4-Nitrophenol | 8250 | <3 | <3 |
| 4-Chloro-3-methylphenol | 8250 | 1 | <3 |
| Pentachlorophenol | 8250 | 1 | <2 |
| Phenol | 8250 | <1 | <1 |
| 2,3,4,6-Tetrachlorophenol | 8250 | <1 | <1 |
| 2,4,5-Trichlorophenol | 8250 | <1 | <1 |
| 2,4,6-Trichlorophenol | 8250 | <1 | <1 |
| | | | |

| CONSTITUENTS | USEPA METHOD | MDL A ⁱ | MDL B ⁱⁱ |
|---------------------------------|--------------|--------------------|---------------------|
| Base/Neutral | 8250 | mg/L | mg/L |
| Acenaphthene | | <0.5 | <0.5 |
| Acenaphthylene | | 0.2 | <0.5 |
| Acetophenone- | | <3 | <3 |
| Aniline | | <3 | <3 |
| Anthracene | | 2.0 | <0.5 |
| 4-Aminobiphenyl | | <3 | <3 |
| Benzidine | | <3 | <3 |
| Benzo(a)anthracene | | <1 | <1 |
| 4-Chloroaniline | | <1 | <1 |
| 1-Chloronaphthalene | | <1 | <1 |
| p-Dimethylaminoazobenzene | | <3 | <3 |
| 7,12-Dimethylbenz(a)-anthracene | | <1 | <1 |
| a-,a-Dimethylphenethylamine | | <3 | <3 |
| Benzo(a)pyrene | | <1 | <1 |
| Benzo(b)fluoranthene | | <1 | <1 |
| Benzo(k)fluoranthene | | <1 | <1 |
| Chlordane | | <1 | <1 |
| Bis(2-chloroethoxy)methane | | <1 | <1 |
| Bis(2-chlorisopropyl)ether | | <1 | <1 |
| Bis(2-chloroethyl)ether | | <1 | <1 |
| Bis(2-ethylhexyl)phtalate | | <3 | <3 |
| 4-Bromophenyl phenyl ether | | <1 | <1 |
| Butyl benzyl phthalate | | <3 | <3 |
| 2-Chloronaphthalene | | <1 | <1 |
| 4-Chlorophenyl phenyl ether | | <1 | <1 |
| Chrysene | | <1 | <1 |
| Dibenz(a,j)acridine | | <3 | <3 |
| Dibenz(a,h)anthracene | | 0.1 | <1 |
| 1,3-Dichlorobenzene | | <0.5 | <0.5 |
| 1,4-Dichlorobenzene | | <0.5 | <0.5 |
| 1,2-Dichlorobenzene | | <0.5 | <0.5 |
| 3,3-Dichlorobenzidine | | <3 | <3 |
| Diethylphthalate | | <0.5 | <0.5 |
| Dimethylphthalate | | <0.5 | <0.5 |
| Di-n-butylphthalate | | <3 | <3 |
| 2,4-Dinitrotoluene | | <0.5 | <0.5 |
| 2,6-Dinitrotoluene | | <0.5 | <0.5 |
| Diphenylamine | | <3 | <3 |
| 1,2-Diphenylhydrazine | | 1 | <3 |
| Di-n-octylphtalate | | <3 | <3 |
| Ethyl methanesulfonate | | <3 | <3 |
| Fluoranthene | | 0.05 | <1 |
| Fluorene | | 0.1 | <1 |
| Hexachlorobenzene | | <0.5 | <0.5 |

| CONSTITUENTS | USEPA METHOD | MDL A ⁱ | MDL B ⁱⁱ |
|----------------------------|--------------|--------------------|---------------------|
| Hexachlorobutadiene | | <1 | <1 |
| Hexachlorocyclopentadiene | | <3 | <3 |
| Hexachloroethane | | <1 | <1 |
| Indeno(1,2,3-cd)pyrene | | 0.05 | <1 |
| Isophorone | | <0.5 | <0.5 |
| 3-Methylcholanthrene | | <3 | <3 |
| Methyl methanesulfonate | | <3 | <3 |
| Napthalene | | 0.2 | <0.5 |
| 1-Napthylamine | | <3 | <3 |
| 2-Napthalamine | | <3 | <3 |
| 2-Nitroaniline | | <3 | <3 |
| 3-Nitroaniline | | <3 | <3 |
| 4-Nitroaniline | | <3 | <3 |
| Nitrobenzene | | <0.5 | <0.5 |
| N-Nitroso-di-n-butylamine | | <3 | <3 |
| N-Nitrosodimethylamine | | <3 | <3 |
| N-Nitrosodiphenylamine | | 1 | <3 |
| N-Nitroso-di-N-propylamine | | <1 | <1 |
| N-Nitrosopiperidine | | <3 | <3 |
| Pentachlorobenzene | | <3 | <3 |
| Phenacitin | | <3 | <3 |
| Phenanthrene | | 0.05 | <0.5 |
| 2-Picoline | | <3 | <3 |
| Pronamide | | <5 | <5 |
| Pyrene | | 0.05 | <0.5 |
| 5-Tetrachlorobenzene | | <3 | <3 |
| 1,2,4-Trichlorobenzene | | <0.5 | <0.5 |
| | | | |
| Pesticides | 608 | mg/L | mg/L |
| | | | |
| Aldrin | 608 | 0.005 | 0.05 |
| alpha-BHC | 608 | 0.05 | 0.05 |
| beta-BHC | 608 | 0.05 | 0.05 |
| delta-BHC | 608 | 0.05 | 0.05 |
| gamma-BHC (lindane) | 608 | 0.05 | 0.05 |
| Carbofuran | 531.1 | <5 | <5 |
| Chlordane | 608 | 0.05 | 0.05 |
| 4,4'-DDD | 608 | 0.05 | <0.1 |
| 4,4'-DDE | 608 | 0.05 | <0.1 |
| 4,4'-DDT | 608 | 0.01 | <0.1 |
| Benzaton | 515.1 | <2 | <2 |
| Dieldron | 608 | 0.01 | <0.1 |
| Endosulfan I | 608 | <0.1 | <0.1 |
| Endosulfan II | 608 | <0.1 | <0.1 |
| Endosulfan sulfate | 608 | 0.05 | <0.1 |
| Endrin | 608 | 0.01 | <0.1 |

| CONSTITUENTS | USEPA METHOD | MDL A ⁱ | MDL B ⁱⁱ |
|-----------------------------------|--------------|--------------------|---------------------|
| Endrin aldehyde | 608 | 0.01 | <0.1 |
| Glyphosate | 547 | <0.5 | <0.5 |
| Heptachlor | 608 | 0.01 | 0.05 |
| Heptachlor epoxide | 608 | 0.01 | 0.05 |
| Methoxychlor | 608 | <0.5 | <0.5 |
| Toxaphene | 608 | 0.5 | <1.0 |
| 2,4-D | 515.1 | <0.02 | <0.02 |
| 2,4,5-TP-SILVEX | 515.1 | <0.2 | <0.2 |
| | | | |
| Polychlorinated Biphenyls | 608 | mg/L | mg/L |
| | | | |
| Aroclor-1016 | 608 | 0.5 | <1 |
| Aroclor-1221 | 608 | 0.5 | <1 |
| Aroclor-1232 | 608 | 0.5 | <1 |
| Aroclor-1242 | 608 | 0.5 | <1 |
| Aroclor-1248 | 608 | 0.5 | <1 |
| Aroclor-1254 | 608 | 0.5 | <1 |
| Aroclor-1260 | 608 | 0.5 | <1 |
| | | | |
| Herbicides | | mg/L | mg/L |
| | | | |
| Diazinon | | 0.01 | 0.01 |
| Chlorpyrifos | | 0.05 | 0.05 |
| Diuron | | 1 | 1 |
| Malathion | | 1 | 1 |
| Prometryn | 507 | 2 | 2 |
| Atrazine | 507 | 2 | 2 |
| Simazine | 507 | <2 | <2 |
| Cyanazine | 507 | 2 | 2 |
| Molinate | 507 | <0.01 | <0.01 |
| Thiobencarb | 507 | <0.1 | <0.1 |
| | | | |
| Volatile Organic Compounds | 8240A | mg/L | mg/L |
| | | | |
| Acetonitrile | | 10.0 | 10.0 |
| Acrolein | | 2 | 10.0 |
| Acrylonitrile | | 0.5 | 0.5 |
| Benzene | | 0.5 | 0.5 |
| Bromoform | | 0.5 | 0.5 |
| 2-Butanone | | 10.0 | 10.0 |
| Carbon Disulfide | | 10.0 | 10.0 |
| Carbon Tetrachloride | | 0.5 | 0.5 |
| Chlorobenzene | | 0.5 | 0.5 |
| Chlorodibromomethane | | 0.5 | 0.5 |
| Chloroethane | | 0.5 | 0.5 |
| 2-Chloroethyl vinyl ether | | 1.0 | 1.0 |

| CONSTITUENTS | USEPA METHOD | MDL A ⁱ | MDL B ⁱⁱ |
|----------------------------|--------------|--------------------|---------------------|
| Chloroform | | 0.5 | 0.5 |
| Dibromomethane | | 0.5 | 0.5 |
| 1,2-Dibromo-3Chloropropane | | <0.01 | <0.01 |
| 1,4-Dichloro-2-butene | | 10.0 | 10.0 |
| Dichlorobromomethane | | 0.5 | 0.5 |
| Dichlorodifluoromethane | | 0.5 | 0.5 |
| 1,1-Dichloroethane | | 0.5 | 0.5 |
| 1,2-Dichloroethane | | 0.5 | 0.5 |
| 1,1-Dichloroethene | | 0.5 | 0.5 |
| trans-1,2-Dichloroethene | | 0.5 | 0.5 |
| 1,2-Dichloropropane | | 0.5 | 0.5 |
| cis-1,3-Dichloropropene | | 0.5 | 0.5 |
| Trans-1,3-Dichloropropene | | 0.5 | 0.5 |
| Ethanol | | 10.0 | 10.0 |
| Ethylbenzene | | 0.5 | 1.0 |
| Ethylene Dibromide | | <0.01 | <0.01 |
| Ethylene Oxide | | 10.0 | 10.0 |
| Ethyl Metcrylate | | 0.5 | 0.5 |
| 2-Hexanone | | 5.0 | 5.0 |
| Iodomethane | | 0.5 | 0.5 |
| Methyl Bromide | | 5.0 | 5.0 |
| Methyl Chloride | | 5.0 | 5.0 |
| Methylene Chloride | | 1.0 | 1.0 |
| 4-Methyl-2-pentanone | | 5.0 | 5.0 |
| Styrene | | 0.5 | 0.5 |
| 1,1,2,2-Tetrachloroethane | | 0.5 | 0.5 |
| Tetrachloroethane | | 0.5 | 0.5 |
| Toluene | | 0.5 | 1.0 |
| Trichlorofluoromethane | | 1.0 | 1.0 |
| 1,2,3-Trichloropropane | | 0.5 | 0.5 |
| Trichloroethene | | 0.5 | 0.5 |
| 1,1,1-Trichloroethane | | 1.0 | 1.0 |
| 1,1,2-Trichloroethane | | 1.0 | 1.0 |
| 1,2,2-Trifluoroethane | | <0.5 | <0.5 |
| Vinyl acetate | | 5.0 | 5.0 |
| Vinyl chloride | | 0.5 | 0.5 |
| Xylene (Total) | | 0.5 | 0.5 |

ⁱ Detection limits lower than or equal to the Minimum Levels identified in the State Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California

ⁱⁱ Detection limits from Order 96-054

ATTACHMENT U-2 SHORELINE MONITORING STATIONS

| Station | Location ¹ | Latitude | Longitude |
|---------|--|----------|-----------|
| S1 | Surfrider Beach, Malibu, 50 yds E. of breech | 34.03500 | 118.67833 |
| S2 | Topanga Point, Malibu, seaward of lifeguard station | 34.03833 | 118.58083 |
| S3 | Pulga storm drain, Pacific Palisades, 50 yds E. of drain | 34.03361 | 118.53417 |
| S4 | Santa Monica Canyon storm drain, Pacific Palisades, 50 yds E. of drain | 34.02639 | 118.51861 |
| S5 | Santa Monica Pier, Santa Monica, 50 yds S. of pier | 34.00833 | 118.49667 |
| S6 | Pico-Kenter storm drain, Santa Monica, 50 yds S. of drain | 34.00583 | 118.49250 |
| S7 | Ashland storm drain, Santa Monica, 50 yds S. of drain | 33.99639 | 118.48472 |
| S8 | Windward storm drain, Los Angeles, 50 yds S. of drain | 33.98778 | 118.47750 |
| S9 | Marina Del Rey Beach, Marina Del Rey, at lifeguard tower. | 33.98139 | 118.45833 |
| S10 | Ballona Creek, Playa Del Rey, 50 yds S. of south jetty | 33.96083 | 118.45611 |
| S11 | Culver Blvd., extended, Playa Del Rey, N side of Culver storm drain | 33.95639 | 118.45167 |
| S12 | Imperial Hwy. Storm drain, Playa Del Rey, 50 yds S. of drain | 33.93028 | 118.43722 |
| S13 | El Porto, Manhattan Beach, 40 th St. extended | 33.90389 | 118.42250 |
| S14 | Manhattan Beach Pier, Manhattan Beach, 50 yds S. of pier | 33.88360 | 118.41278 |
| S15 | Hermosa Beach Pier, Hermosa Beach, 50 yds S. of pier | 33.86111 | 118.40278 |
| S16 | Redondo Pier, Redondo Beach, 50 yds S. of pier | 33.83833 | 118.39111 |
| S17 | Ave. I storm drain, Redondo Beach, Ave. I extended, 50 yds S. of drain | 33.81889 | 118.39111 |
| S18 | Malaga Cove, Palos Verdes Estates, Arroyo Circle extended | 33.80500 | 118.39467 |

¹ Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999.